GW - __53__

H2S CONTINGENCY PLAN

AGAVE ENERGY COMPANY

105 South Fourth Street | Artesia, New Mexico 88210 | (575) 748-4555 | Fax (575) 748-4275

RECEIVED OCD

2012 JUL 17 P 12:45

July 11, 2012

Oil Conservation Division
Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Agave Dagger Draw Gas Plant
H2S Contingency Plan Update

To Whom It May Concern:

The H2S Contingency Plan for the Agave Dagger Draw Gas Plant was approved by the OCD on March 1, 2011. We have recently made some minor revisions to the plan, so Agave is resubmitting the plan.

1) The original plan had "proposed" perimeter alarm locations. The perimeter alarms have been installed and all relevant maps have been updated with the actual location of the alarms rather than the proposed locations.
2) The original plan referred to "Redline" perimeter alarms. Agave actually installed "Pemtech" perimeter alarms.
3) The roadblock signs have been installed. After consultation with Eddy County Road Department, the locations of the signs changed slightly. The relevant maps have been updated and pictures of the actual signs have been included in the document.
4) There have been some additions to entities located within the ROE. There are several companies who have well locations staked within the existing ROE. While there are currently no well locations, Agave is treating the staked locations as if they were wellhead locations and have added the production companies to the plan as if they were operating within the ROE. In addition, a "sister company" to Agave, Remuda Energy Transportation, LLC is in the process of building an office to the east of Agave's field office. We have identified the facility on the maps and are treating the Remuda employees as if they were employees in the field office as far as alarms, training, and notification goes.

If you have any questions about this document, please do not hesitate to call me at 575-748-4471 or email me at jknowlton@yatespetroleum.com.

Sincerely,

Jennifer Knowlton

Jennifer Knowlton

H_2S Contingency Plan

Agave Dagger Draw Processing Plant
and the
Metropolis Disposal #1 Well

Agave Energy Company

105 South 4th Street
Artesia, NM 88210
(575-748-4555)

June 18, 2012

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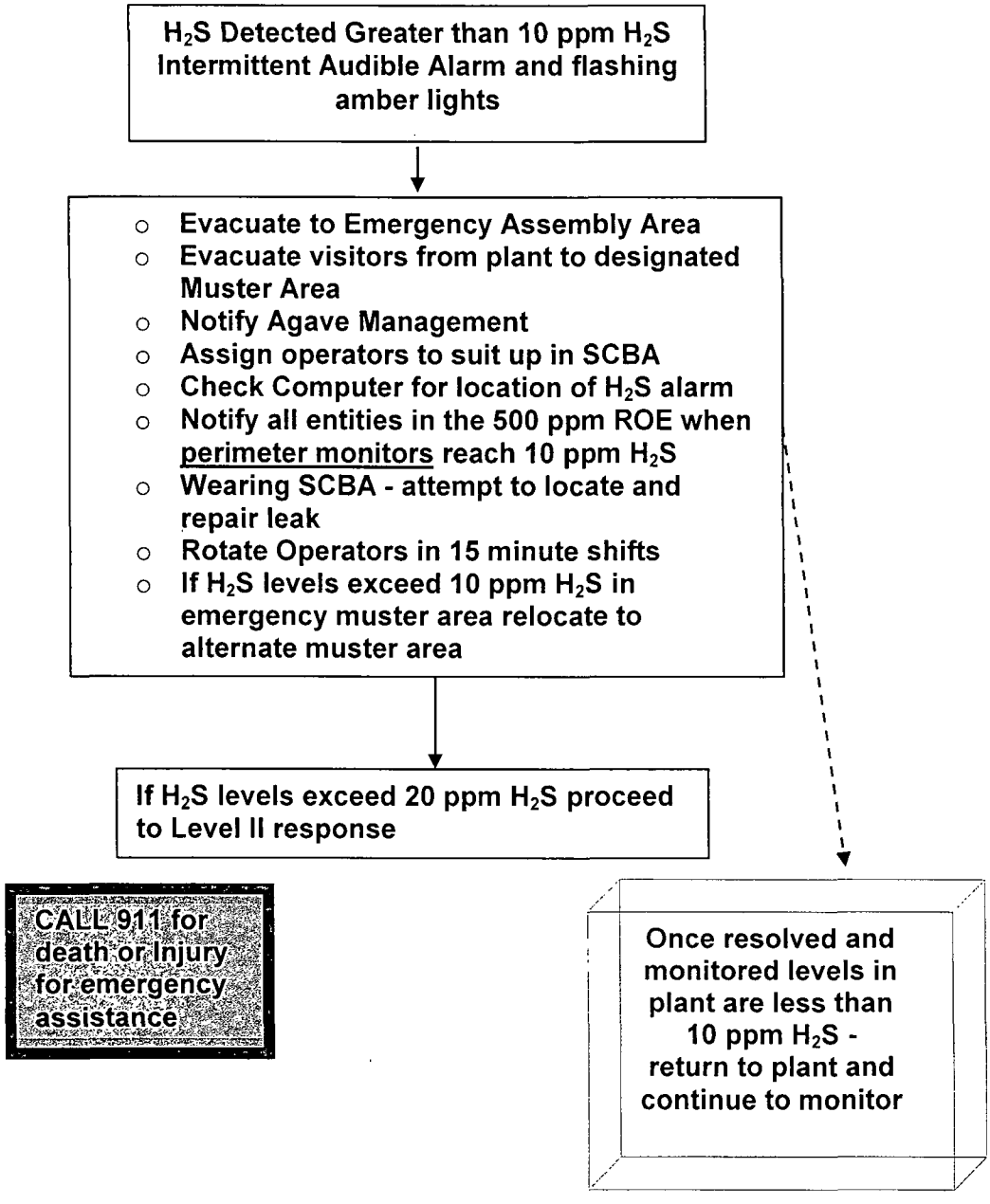
APPENDICES

OPERATOR QUICK REFERENCE GUIDE

Dagger Draw Processing Plant
Level 1 Response
FOR PLANT OR WELLHEAD ALARMS

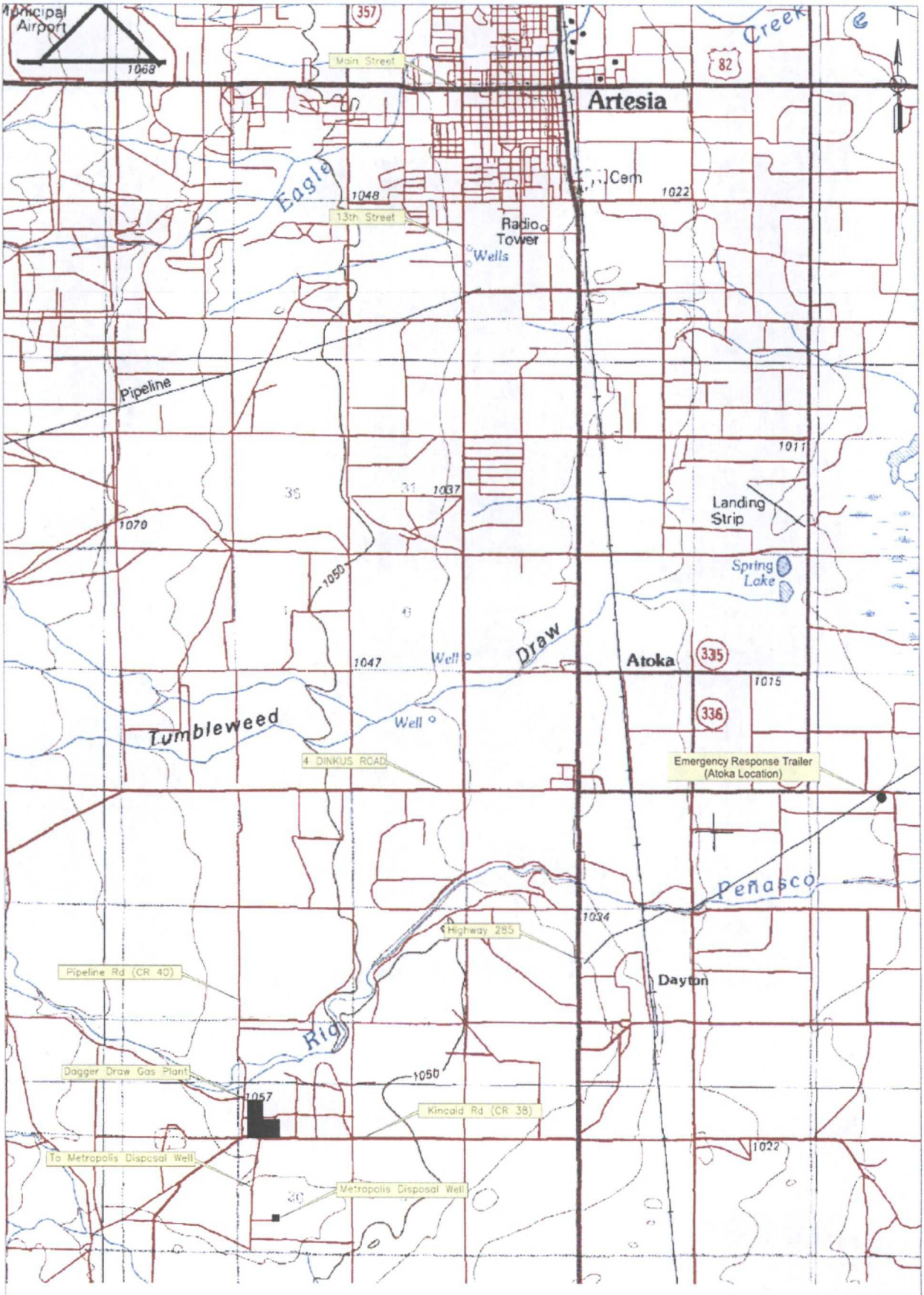


Location of Facilities

Agave Dagger Draw Processing Plant (See Map 1)
Go south of Artesia, NM on Hwy 285 approximately 9 miles to County Road 38 (Kincaid Ranch Road). Turn right (west) on Kincaid Ranch Road and go approximately 2.8 miles to Pipeline Road. Turn right (north) and go 0.2 miles to the Dagger Draw Gas Plant Office. Physical address is 278 Pipeline Road, Artesia, NM 88210.
Section 25-Township 18S-Range 25E

Metropolis Disposal #1 Well (See Map 1)
Go south of Artesia, NM on Hwy 285 approximately 9 miles to County Road 38 (Kincaid Ranch Road). Turn right (west) on Kincaid Ranch Road and go 2.6 miles (just past the Agave Field Office). Turn left (south) on dirt lease road and go approximately 0.6 miles then turn left (east) and go 0.2 miles to the Metropolis Disposal #1 Well. **Section 36-Township 18S-Range 25E**

Emergency Trailer – Atoka Facility Location (See Map 1)
From Artesia, drive south on Highway 285 to County Road 39. Turn east and drive approximately 2 miles. The facility is on the south side of the road in NW/NE Sec 14 18S 26 E. See F. 6. (Page 9) for a detailed list of Emergency Trailer contents. The trailer can serve as a mobile resource center or Incident Command Center.



AGAVE ENERGY COMPANY

105 South Fourth Street, Artesia New Mexico 88210

AGAVE DAGGER DRAW PLANT
HYDROGEN SULFIDE CONTINGENCY PLAN
FACILITIES LOCATIONS

DRAFTING: TMH	DRAWING: 11/29/12	SIZE: ANSI B	REV: 0
DW: JR	DATE: 11/29/12	SCALE: 1"=2000'	
APPROVED: JK	DATE: 11/29/12	SHEET: 1 of 1	

MAP 1

I. Introduction

[API RP-55 7.1]

The Agave Dagger Draw Processing Plant is a natural gas processing plant which handles and/or generates hydrogen sulfide (H_2S) and/or sulfur dioxide (SO_2). This H_2S contingency plan was created to outline procedures that are to be followed in the event of an H_2S release that occurs at the plant, the acid gas well, or on the acid gas pipeline. The response plan is the same regardless of where the release takes place. This plan complies with the ***New Mexico Oil Conservation Division (OCD) Rule 11***. The plan and operation of the Dagger Draw Plant also conform to standards set forth in ***API RP-55 "Recommended Practices for Oil and Gas Producing and Gas Processing Plant Operations Involving Hydrogen Sulfide"*** as well as ***API RP-49 "Recommended Practice for Drilling and Well Servicing Operations Involving Hydrogen Sulfide."*** The Dagger Draw Plant does not have any storage tanks in which hydrogen sulfide or other gas or gas products are stored, and thus, API regulations and OCD regulations (specifically 19.15.11.12.E NMAC) relative to those types of storage are not applicable for this plant. There is one business, Remuda Energy Transport, LLC within the 100 ppm radius of exposure (ROE). Agave has committed to provide notice to nearby property owners outside of the ROE as detailed in Section C. 4. (Page 6) and Appendix E in the case of an unintended release.

II. Scope

[API RP-55 7.2]

This contingency plan is specific to the Agave Dagger Draw Gas Processing Plant and acid gas injection system. This plan contains procedures to provide an organized response to an unplanned release from the plant, well site and pipeline connecting them and outlines procedures that would be followed to alert and protect any members of the public, residents in surrounding areas and/or contractors working on or around the plant in the event of an unplanned release. All operations shall be performed with safety as the primary goal. Any part of the operation that might compromise the safety of personnel will cease until the operation can be re-evaluated and the proper engineering controls implemented.

III. Plan Availability

[API RP-55 7.3]

This contingency plan shall be available to all personnel responsible for implementing any portion of the plan. Copies of the plan will be distributed to the following agencies: New Mexico Oil Conservation Division (OCD), New Mexico Department of Public Safety, Local Emergency Planning Committee (LEPC), Artesia Fire Department, Atoka Fire Department, Artesia Police Department, and Eddy County Sheriff's Department. The Plan will be available at the following Agave Energy Company locations: Dagger Draw Processing Plant, the Artesia Field Office, Emergency Response Trailer at Atoka (Map 1) and the Agave Main Office in Artesia.

IV. Emergency Procedures

[NMAC 19.15.11.9.B(2)(a)] [API RP-55 7.4 a] [CFR 1910.1200]

A. Responsibilities and Duties of Personnel during an Emergency

1. Plant Manager or designee will serve as the Incident Commander (IC); is responsible for training operators assigned to the plant, contractors and visitors on the implementation of this plan; and will maintain communication with Agave management and residents within the radius of exposure (ROE).

2. Plant Supervisor or designee will serve as the Incident Commander (IC) in the absence of the Plant Manager; is responsible for training and supervising plant operators on the implementation of this plan, will maintain accountability of all contractors and visitors; and will maintain communication with the plant manager and Agave management.

3. Plant Operators will perform operations in accordance with this safety plan; assist in the accountability and evacuation of visitors and contractors to designated muster areas; and keep the plant supervisor and manager informed on the repair progress.

4. Essential Agave Personnel will be familiar with the procedures in this plan and assist plant operators in assisting with the implementation of this plan in a safe manner.

5. Visitors and contractors on site will be familiar with safety alarms and signals at the Dagger Draw Gas Processing Plant and the acid gas injection system; and adhere to instructions of Plant Operators and other Agave personnel in evacuation of the facilities.

B. Immediate Action Plan

1. The following outlines the Immediate Action Plan that is illustrated by the response flow diagram in Appendix B. This is to be used when responding to an H_2S release. Response levels are the same for a release at the plant or the acid gas well. Additional or long term response actions will be determined on a case-by-case basis, if needed, once the Incident Command Center (ICC) and System (ICS) are established following the immediate response.

Level	Alarms	Actions
I	Intermittent audible alarm sounded and/or flashing yellow lights activated for H_2S at 10 ppm or greater.	**1.** The audible signal for a Plant emergency and evacuation is an intermittent alarm and yellow lights (repeating off/on) activated when levels of H_2S of 10 ppm or greater are detected. In addition, a flashing yellow light or beacon will be activated at 10 ppm or greater of H_2S. The audible alarm and flashing yellow lights are redundant systems which function independently of one another so that should one system fail, the other would remain active. These systems incorporate back-up battery capabilities as recommended in API RP 55 which insure their operation in the event of a power failure. A computer in the control room and in the Plant Supervisor office establishes which H_2S monitor has activated the alarm and/or flashing yellow beacon, be it a plant monitor or well monitor. At the initial sound of the intermittent alarm or the flashing yellow beacon, assigned operators will put on a 30 minute self-contained breathing apparatus (SCBA). (There are a maximum of four operators at the plant at any one time, and at least seven SCBA devices are located where they are accessible to the operators.) All other personnel in the Plant complex or well site shall immediately evacuate the Plant or well site to the closest Emergency Assembly Area (see Appendix D, Map D-1). If H_2S concentrations are 10 ppm or greater, then personnel will evacuate to a designated Muster Area determined by the Incident Commander (IC) (see Appendix D, Map D-1). The operators, upon suit up with the self-contained breathing apparatus (SCBA), will first help any persons in distress evacuate to the Emergency Assembly Area. If deemed necessary by the Plant Manager or Plant Supervisor, local emergency response service providers will be contacted by Plant personnel designated by the Plant Manager or Supervisor. **2.** All entities within the 500 ppm radius of impact (ROE) will be notified (by telephone) of a release if the perimeter alarms are activated at 10 ppm H_2S or greater. Notification will be done by personnel designated by the Plant Manager or

		his designee. The nature of the release and status of containment will be conveyed. Businesses will be advised to report the incident to employees working near the Plant and to alert any third party contractors or service companies working in the Plant vicinity or imminently scheduled to work in the vicinity of the release. All should be instructed to leave the area and not to enter/re-enter area until further notice. **3.** Wearing the self-contained breathing apparatus (SCBA), the operator(s) will attempt to fix the cause of the release. The H_2S levels at the Emergency Assembly Area will be monitored with a hand held or personal monitor and with the fixed monitor. **4.** The Incident Commander (IC) will set up secondary re-entry team(s) with 30 minute self-contained breathing apparatus (SCBA) to re-enter and resolve the situation. Re-entry will occur in 15 minute shifts at the direction of the Incident Commander (IC) until the problem is resolved or the emergency shut down (ESD) is activated. If H_2S levels in the Emergency Assembly Areas exceed 10 ppm H_2S, evacuate to alternate Emergency Assembly Area and continue to monitor Emergency Assembly Area with personal or handheld H_2S monitors. If evacuation to Muster Area occurs, road blocks will be established near the Muster Areas on Kincaid and Pipeline Road. If release is resolved and monitored levels in the Plant are less than 10 ppm H_2S, personnel may re-enter the Plant. The Oil Conservation Division (OCD) shall be notified within four hours of any release that activates the Plan. If the release is not resolved and H_2S levels continue to increase, Level II Response is indicated.

Levels	Alarms	Actions
II	Intermittent audible alarm sounded and/or flashing red lights activated for H_2S greater than 20 ppm	**1.** The intermittent alarm **and** red flashing lights indicate the detection of H_2S greater than or equal to 20 ppm. (Flashing yellow lights indicate a H2S release of 10 ppm or greater and they will change to red for a release of 20 ppm or greater.) The audible alarm and flashing red lights are redundant systems which function independently of one another so that should one system fail, the other would remain active. These systems incorporate back-up battery capabilities as recommended in API RP 55 which insure their operation in the event of a power failure. A control panel in the Plant supervisor's office establishes which H_2S monitor has activated the alarm and or flashing red beacon, be it a plant monitor or a well monitor. At the initial sound of the intermittent alarm or observance of the flashing red beacons, the operators will exit to the Emergency Assembly Area specified by the Plant Manager or his designee. All personnel in the Plant complex will put on emergency escape packs located throughout the plant, or at the well location and evacuate, using the evacuation routes to the Emergency Assembly Area (see Appendix A, Maps A-4 and A-6 and Appendix D, Map D-1) and then to the Muster Area (see Appendix D, Map D-1) specified by the Plant Manager or designee. At the assembly area, the Plant Manager or designee may assign operators to put on a 30 minute self-contained breathing apparatus (SCBA). Local emergency response service providers will be contacted by Plant Manager or designee. See Section F. 4. (Page 11) for a listing of respirator equipment. **2.** All entities within the 100 ppm radius of impact (ROE) will be contacted by phone and notified of release and asked to evacuate when a perimeter monitor reads 10 ppm H2S or greater. If a perimeter alarm is activated, a visual and audible beacon at Remuda will be activated. Remuda employees are trained to evacuate to the Muster Area on Kincaid Road. All other entities within the 100 ppm radius of impact (ROE) will be contacted by phone and notified of release. The nature of the release and status of containment will be conveyed. Depending on release status and prevailing wind conditions, some entities within the 100 ppm radius of impact (ROE) may be asked to shelter in place or evacuate. Notifications will include but are not limited to the following: **a)** Other entities within the 100 ppm radius of impact (ROE), depending on release status and prevailing wind conditions, will be asked to shelter in place. Those entities will be instructed to close any windows and shut off any air conditioning/heating until further notice. In addition, they will be instructed to contact other employees/residents not currently present and instruct them not to enter/reenter the area until further instruction. **b)** If a perimeter monitor is activated, the LEPC and law enforcement will be contacted by phone and notified of the release and status of containment. The Incident Commander (IC) will assign personnel notification responsibility. **3.** Operator(s) with 30 minute self-contained breathing apparatus (SCBA) will assess the release and attempt to resolve it. If after 45 minutes on scene there is no resolution, the operator(s) will notify the Plant Manager to determine if the emergency shut down (ESD) should be activated. **4.** If monitored H_2S levels at Muster Area exceed 10 ppm, evacuate to an alternate Muster Area. If deemed necessary, local emergency response service providers will be contacted by the Incident Commander (IC). **a)** Re-entry will occur in full self-contained breathing apparatus (SCBA) and in 15 minute shifts at the direction of the IC until IC determines problem has been resolved or emergency shut downs (ESDs) are activated. **b)** If release is resolved and monitored levels of H_2S in the Plant are less than 10 ppm, personnel may return to Plant. The Oil Conservation Division (OCD) shall be notified within four hours of any release that activates the Plan. All entities previously notified will be informed that the release has been resolved and advised of the current monitored H_2S levels at the Plant. **c)** No resolution requires activation of Level III Response with notifications and

		reporting as per Plan. If the release is not resolved and/or H_2S levels continue to increase, Level III Response is indicated. **d)** Monitoring will continue after problems are abated, at the direction of the Plant Manager. **5.** Initiate and maintain a Chronological Record of Events log.

Level	Alarms	Actions
III	Intermittent audible alarm sounded and/or flashing red lights activated for catastrophic release; fire; or explosion ESD alarm is a continuous siren with red, amber, and blue lights that flash	**1.** If H_2S is at 20 ppm or greater and repair efforts at Level II have been unsuccessful, worst case scenario, and/or catastrophic release have occurred, then a Level III response will be implemented. **2.** Road blocks will be set up near the Muster Areas on Kincaid Road and Pipeline Road (see Appendix D, Map D-1). **3.** All personnel shall have evacuated to a designated Muster Areas. Evacuation of all entities within the 500 ppm radius of impact (ROE) will have been confirmed. Implement full H_2S Plan with all notifications and public agency involvement. Notifications to all entities within the 100 ppm radius of impact (ROE) will include the nature of the release and status of containment. Notifications will include but are not limited to the following: **a)** All businesses within the 100 ppm radius of impact (ROE) will be instructed to immediately alert all company personnel, third party contractors and/or services companies working in the area, and those imminently scheduled to work in the area, of the release and evacuation status of the Plant. They will be instructed to immediately leave and/or not enter/reenter the area within the roadblocks until further instruction. **b)** All other entities (including private residents) within the 100 ppm radius of impact (ROE) will be instructed to immediately shelter in place, if appropriate based on the source of the release and the wind direction. Those entities will be instructed to close any windows and shut off any air conditioning/heating until further notice. In addition, they will be instructed to contact other employees/residents not currently present to not enter/reenter the area until further instruction. **c)** The Incident Commander (IC) will make the decision based on, but not limited to, H_2S concentration and wind direction, whether a safe evacuation can be implemented, and recommend an evacuation route. **4**. If escaping vapors have ignited, the vapors should be allowed to continue to burn unless the fire endangers personnel, other property, or other equipment. **5.** When applicable, maintain communication with the Plant Manager, or his designee, to keep him up-to-date of the situation and the action taken prior to his arrival at the location. **6.** Initiate and maintain a Chronological Record of Events log. **7.** Within one hour after the activation of the H_2S Plan, begin agency notifications by calling Oil Conservation Division (OCD) and National Response Center (NRC). **8.** Establish media staging area adjacent to Muster Area 2 and direct all media to it. **9.** Once resolved and monitored levels in the Plant and at Muster Area are less than 10 ppm, roadblocks will be removed, and all entities within the 100 ppm radius of impact (ROE) will be allowed to return. All entities previously notified will be informed that the release has been resolved and advised of the current monitored H_2S levels. **10.** Monitoring will continue after problems are abated, at the direction of the Plant Manager **11.** Agency reports to be submitted as required.

C. Telephone Numbers and Communication Methods

1. Emergency Services

AGENCY	TELEPHONE #
Artesia Fire Department	(575) 946-5050
Atoka Fire Department	(575) 946-5050
Artesia Police Department	(575) 746-5000
Eddy County Sheriff	(575) 887-7551
Carlsbad Police Department	(575) 885-2111
State Police (HMER)	
District 3 Roswell	(575) 827-9312
Sub District 3 Carlsbad	(575) 885-3138
Sub District 3 Hobbs	(575) 827-9320
Ambulance Services	
Artesia	(575) 746-5050
Carlsbad	(575) 885-2111
Hospitals	
Artesia General	(575) 748-3333
Carlsbad Medical Center	(575) 887-4100
Veterinarians	
Artesia Animal Clinic	(575) 748-2042
Livingston Animal Clinic	(575) 746-6167
Helicopter Services	
Lifeguard (Albuquerque)	1-800-633-5438
Southwest Medivac (Hobbs)	1-800-242-6199
AeroCare (Lubbock)	1-800-627-2376
Air Med (El Paso)	(915) 772-1449

2. Government Agencies

AGENCY	TELEPHONE #
Oil Conservation Division (OCD)	(505) 476-3440 (575) 748-1283
US BLM	(575) 887-6544
Local Emergency Planning Committee (LEPC)	(575) 887-9511
National Response Center (NRC)	1-800-424-8802

3. Operators and Contractors

COMPANY	TELEPHONE #
CVE	(575) 746-3571
PVT	(575) 748-1241
DCP Midstream	(800) 435-1679
Chevron/West Texas Pipeline Company	(800) 762-3404
Transwestern Pipeline	(281) 714-2265
Yates Petroleum Corporation	(575) 748-1471

4. Public

Name	Address	TELEPHONE #
David and Diana Wilson	80 West Kincaid Ranch Road	(575) 457-2309
Raul and Delilah Baeza	193 West Kincaid Ranch Road	(575) 308-3195
Efrin and Maria Baeza	179 West Kincaid Ranch Road	(575) 513-0471
Christine Baeza	175 West Kincaid Ranch Road	(575) 457-2585

5. ROE Entities

Company	Title	Name	Cell Phone
Concho	Assistant Production Foreman	Rocky Harper	432-230-0109
	Senior Production Foreman	Rick Wright	432-528-5363
	Production Superintendent	Kent Greenway	432-5571694
	Lease Operator	Frank Waters	575-513-2479
	SENM District Superintendent	Ron Beasley	432-254-9883
Remuda	Operations Manager	Jackie Brown	575-748-2955
	Dispatch	Robin Goodrich	575-746-0320
	Safety Officer	TJ Smith	575-513-0915
Cimarex	Foreman	Ronny Snow	575-942-8781
	Superintendent	Kim Barton	432-853-4472

6. Agave Internal Call List

NAME	TITLE	Office #	Cell #
J.B. Smith	President	(575) 748-4414	(575) 365-8517
Rusty Nasta	Operations Manager	(575) 748-4523	(575) 626-7971
Ivan Villa	Engineering Supervisor	(575) 748-4528	(575) 365-4888
Jennifer Knowlton	Environmental Engineer	(575) 748-4528	(505) 238-3588
Robert Moorhead	Plant Manager/South Mechanical Supervisor	(575) 748-6815	(575) 365-4840
Gary Greenwood	Plant Supervisor	(575) 748-8414	(575) 365-6794
Mark Smith	PSM Coordinator/Plant Operator	(575) 748-8410	(575) 365-5053
Dustin McNeely	Plant Operator	N/A	(575) 703-5493
Justin Troublefield	Plant Operator	N/A	(575) 365-7503
Glen Blake	Regulatory Coordinator	(575) 748-4546	(575) 626-8168
Bill Johnson	South Measurement Supervisor	(575) 748-6816	(575) 365-4615
Jason Fuentes	South Pipeline Supervisor	(575) 748-4518	(575) 365-8939

7. Agave Energy Company will use 2-way radios and telephones to communicate internally. Telephone will be used for external communication. Land lines and high speed internet access are available at the plant office.

D. Location of Nearby Residences, Roads, and Medical Facilities

1. The following residences are located within the ROE of the:
   a) Plant -- None
   b) Metropolis Disposal #1 Well – None
   c) Pipeline – None

2. The following roads are located within the ROE:

a) Kincaid Ranch Road
b) Pipeline Road

3. There are no medical facilities located within the ROE.

4. There is one business located within the 100 ppm ROE. Remuda Energy Transport, LLC is a wholly owned subsidiary of Yates Petroleum Corporation and thus a sister company of Agave Energy Company. Agave trains the Remuda personnel along with the Agave personnel. If a perimeter alarm is activated, a visual and audible beacon at Remuda will be activated. Remuda employees are trained to evacuate to the Muster Area on Kincaid Road. There are currently several wells staked to be drilled in the the 100 ppm ROE and the 500 ppm ROE. These operators have been listed in this plan and will be advised if the plan is activated. Agave personnel will make a visual inspection of the ROE area to insure that no individuals are seen inside the ROE, and if any are observed, they will be advised to immediately evacuate to the designated Muster Area, described above.

E. Evacuation Routes, Emergency Assembly Area, Muster Areas, and Road Block Locations

1. Evacuation Routes, Emergency Assembly Area, and Muster Areas are depicted on Maps A-4 and A-6 in Appendix A and Map D-1 in Appendix D.

2. Pre-planned road block locations are designated near the muster areas on Pipeline Road and Kincaid Ranch Road and are depicted on Map D-1 in Appendix D. Each location will have pre-positioned, portable road barriers with lights. The locations will have flashing lights and warning signs. If the release is sufficient to require evacuation to muster areas, then roadblocks near the muster areas on Kincaid Ranch Road and Pipeline Road to the west and north of the facility, respectively, will be established. The Incident Commander (IC) will designate a representative to staff each of the two roadblocks. If deemed necessary by the Incident Commander (IC), the State or Local Police will be asked to assist with maintaining the roadblocks.

3. Emergency lights on the Muster Area signs will be activated by any perimeter alarm of 10 ppm or greater H_2S or Level III activation.

F. Monitoring Equipment, Alarm Systems, Safety Equipment, and Supplies Available

1. EMERGENCY SHUTDOWN SYSTEM (ESD): There are (8) ESD manual stations located at various points in the facility. See Maps A-2 and A-3 in Appendix A. The Plant ESD can be activated at any time by any employee or at the direction of the Incident Commander (IC). If any of the perimeter H_2S sensors at the plant detect a concentration of 10 ppm or higher the Plant ESD is automatically activated.

When any one of the eight (8) manual stations is activated, the system will be shutdown and the natural gas inlets and outlets will be blocked. The operators are also able to auto close the one (1) main block valve on the incoming gas line to the Plant. Activating these should allow the plant to avoid a Level III response. The Incident Commander (IC) can send trained personnel to designated off-site manual block valves. There are also various methods to shut down gas flow at the various wellheads and incoming gathering lines. These can and would be evaluated on a case by case basis.

Designated employees will have remote access to the plant controls including ESD capabilities.

2. PLANT ALARMS, VISIBLE BEACONS & WIND INDICATORS: Colored beacons, horns, and wind direction indicators are located in various locations throughout the Plant and are indicated in Appendix A on Maps A-2, A-3, and A-6.

The audible signal for an emergency response and Plant evacuation is a repeating intermittent alarm that sounds at H_2S concentrations of 10 ppm or greater. The alarm will remain intermittent when the concentration of the H_2S release is 20 ppm or higher. At the initial sound of this intermittent alarm, the plant operators will evacuate to the emergency assembly area put on a self-contained breathing apparatus (SCBA) and all personnel in the plant complex shall immediately proceed in a safe manner to the Emergency Assembly Areas as prescribed by the Emergency Action Plan.

A flashing red beacon signifies an H_2S release of 20 ppm or higher and all personnel in the plant complex shall immediately proceed in a safe manner to the Emergency Assembly Area located outside of the plant office. If this area is not determined to be safe, all will move to designated Muster Area. Evacuation routes and Muster Areas are indicated on the map in Appendix A, on Map A-4 and A-6 as well as Appendix D, on Map D-1.

A routine process alarm will cause a horn to sound. This horn sound is used to alert the plant Operator to return to the Control Room. No emergency response or evacuation is required when this horn sounds.

Wind direction indicators are installed throughout the plant. At least one wind direction indicator can be seen at any location within the Plant complex, as well as from any point on the perimeter of the plant. There are ten (10) windsocks located in the Plant.

3. GAS DETECTION EQUIPMENT: The Plant uses a Smart Sensor System™ fixed plant H_2S Sensors. These sensors are a fixed point monitoring system used to detect the presence of hydrogen sulfide in ambient air. The yellow flashing beacon is activated at H_2S concentrations of 10 ppm or greater. The horn is activated with an intermittent alarm at H_2S concentrations of 10 ppm or greater. The lights change to red at 20 ppm H_2S and the horn remains intermittent. The fixed hydrogen sulfide monitors are strategically located throughout the Plant to detect an uncontrolled released of hydrogen sulfide. The Plant operators are able to monitor the H_2S level of all the Plant sensors on the control monitor located in the control room and the Dagger Draw Plant Field Office. In addition, select employees can access this information remotely. These sensors are located on the plot plan in Appendix A, Maps A-2 and A-3. These sensors all have to be acknowledged and will not clear themselves. This requires immediate action for any occurrence or malfunction. The Plant sensors have battery backup systems and are calibrated monthly. Audible alarm systems are also calibrated monthly.

Pemtech™ wireless H_2S detectors with battery backup systems are installed along the perimeter of the plant and the perimeter of the acid gas disposal well. Perimeter H_2S detectors report to the Pemtech monitor every five minutes to confirm detector functionality. Once H_2S gas is detected, the H_2S detectors report to the monitor every

five seconds. The detectors will go into alarm at H_2S values of 10 ppm and above. Pemtech H_2S head unit locations are depicted on Map A-5 and A-6 in Appendix A.

Handheld gas detection monitors are available to plant personnel to check specific areas and equipment prior to initiating maintenance or work on the process equipment. There are 3 handheld monitors and each individual is assigned a personal H_2S monitor. The handheld gas detection devices are Industrial Scientific ITX 3-gas detectors and BW Gas Alert Micro 5 4-way monitors. The detectors have sensors for oxygen, LEL (explosive hydrocarbon atmospheres), hydrogen sulfide, and carbon dioxide. They indicate the presence of H_2S with a beeping sound at 10 ppm. The beeps change in tone as H_2S increases to 20 ppm. The personal monitors are set to alarm (beep) at 10 ppm with the beeps becoming closer together as the H_2S concentration increases to 20 ppm. Both the handheld and personal monitors have digital readouts of H_2S ppm concentration.

a) The compressor building has two methane sensors; one sends a call out at 30% lower explosive limit (LEL); the second shuts the compressors down at 50% lower explosive limit (LEL). The methane sensors are visual and audible alarms. The compressor building also is equipped with fire eyes that will also shut the units down. The four product pumps also have LEL sensors.

4. RESPIRATORS: The facility has seven (7) 30 minute self-contained breathing apparatus (SCBA) respirators and six (6) 5 minute escape packs strategically located throughout the Plant. There are also five (5) emergency packs with supplied air lines distributed throughout the plant. The respirator locations are identified in Appendix A on Maps A-3 and A-6. All Plant personnel are certified to use the self-contained breathing apparatus (SCBA) respirators and emergency packs.

5. FIRE FIGHTING EQUIPMENT: The Plant personnel are trained only for insipient stage fire fighting. The fire extinguishers located in the Plant process areas, compressor buildings, process buildings, and company vehicles are typically a 20# ABC dry chemical fire extinguisher. See Appendix A, Maps A-3 and A-6 for locations. The Plant does not have a fire water system, only a utility water system that is not designed for fire fighting.

6. EMERGENCY RESPONSE TRAILER AND EQUIPMENT: Agave Energy Company has an Emergency Response Trailer located at the Atoka Facility (Map 1; Map D-2 Appendix D). This is located outside all radii of exposure (ROE) from the facility along the pipeline to the well.

Driving Directions: From Artesia, drive south on Highway 285 to County Road 39. Turn east and drive approximately 2 miles. The facility is on the south side of the road in the NW/NE Sec 14 18S 26 E. See Map D-2 in Appendix D. The trailer can serve as a mobile resource center or Incident Command Center.

a) EMERGENCY RESPONSE TRAILER CONTENTS

- 2 wind socks / wind direction indicators w/poles & spares
- 1 – 110 volt generator, portable w/wheels
- 4 5-gas sensor ambient monitors (O_2, SO_2, LEL, CO, H_2S) with automatic air pumps (15 sec per foot) and data logging capability

- 1 calibration unit for monitors
- 5 intrinsically safe communication radios & chargers, 32 channel with capability to be programmed to fire service and police channels
- 4 20# stored pressure, ABC class Fire Extinguishers
- 4 4500 Grade D breathing air cylinders, regulator, low pressure alarm, and hose reel w/ 300 ft hose (total) and correct quick disconnects.
- 1 stretcher
- 1 20-person First Aid Kit with burn gel packets
- 4 30-minute SCBA's
- 4 work unit SCBA's
- 2 lights, mounted on each rear of trailer for night operations
- 2 hand cleaner for decontamination of petroleum products.
- 3 traffic Control Kits
- 1 emergency flare gun for lighting uncontrollable hazardous gases
- 2 full body harness and 150' X 2 lifelines
- 2 "Hazardous Area" "Do Not Enter" signs / barricades
- 2 burn gel blankets
- 1 set of maps and Emergency Response Plans
- 4 temporary use Nomex Fire retardant clothing (2-LG & 2-XLG)

7. TRAFFIC CONTROL KIT CONTENTS
   - 3 electronic road flares
   - 1 28" stop sign paddle
   - 4 reflective traffic control vests
   - 2 emergency signal wands
   - 1 emergency Response Guidebook

8. FIRST AID EQUIPMENT LOCATIONS:
   a) First Aid Kits are located at the following locations:
   - Lab
   - Office

   b) Eye Wash stations are located at the following locations:
   - Lab
   - Office

9. PERSONAL H_2S MONITORS: All Agave personnel assigned to the Plant and associated field personnel are issued personal H_2S monitors.

10. SIGNS and MARKERS: The Plant has warning signs indicating the presence of "H_2S/Poisonous Gas" and high pressure gas at the entrance to the Plant. Emergency response phone numbers are posted at the entrance to the Plant. Signs are located at the Plant gate entrance indicating that all visitors are to sign in.

V. Characteristics of Hydrogen Sulfide (H_2S), Sulfur Dioxide (SO_2) and Carbon Dioxide (CO_2) [NMAC 19.15.11.9.B(2)(b)] [API RP-55 7.4 b.]

A. Hydrogen Sulfide (H_2S): Hydrogen Sulfide (H_2S): The proposed inlet gas streams into the Plant will contain a maximum of 7,600 ppm (or 0.76 mole percent) of hydrogen sulfide based on data generated from the sampling of the inlet gas at least daily. Hydrogen

sulfide is a colorless, toxic and flammable gas, and has the odor of rotten eggs. Hydrogen sulfide gas is heavier than air. Hydrogen sulfide presents a significant health hazard by paralyzing the respiratory system resulting in serious injury or death.

Hydrogen Sulfide Properties and Characteristics	
CAS No.	7783-06-4
Molecular Formula	H_2S
Molecular Weight	34.082 g/mol
Ceiling Concentration	20 ppm (OSHA)
Ceiling Peak Concentration	50 ppm (OSHA)
Threshold Limit Value (TLV)	15 ppm (ACGIH)
Time Weighted Average (TWA)	10 ppm (NIOSH)
Short Term Exposure Level (STEL)	15 ppm (ACGIH)
Immediately Dangerous to Life or Health (IDLH)	100 ppm
Specific Gravity Relative to Air (Air=1.0)	1.189
Boiling Point	-76.5F
Freezing Point	-121.8F
Vapor Pressure	396 psia
Autoignition Temperature	518F
Lower Flammability Limit	4.3%
Upper Flammability Limit	46.0%
Stability	Stable
pH in water	3
Corrosivity	Reacts with metals, plastics, tissues and nerves

Physical Effects of Hydrogen Sulfide		
Concentration		
ppm	%	Physical Effects
1	0.00010	Can be smelled (rotten egg odor)
10	0.0010	Obvious & unpleasant odor; Permissible exposure level; safe for 8 hour exposure
20	0.0020	Acceptable ceiling concentration
50	0.0050	Loss of sense of smell in 15 minutes
100	0.0100	Immediately dangerous to life and health(IDLH) loss of sense of smell in 3-15 minutes; stinging in eyes & throat; Altered breathing
200	0.0200	Kills smell rapidly; stinging in eyes & throat
500	0.0500	Dizziness; Unconscious after short exposure; Need artificial respiration
700	0.0700	Unconscious quickly; death will result if not rescued promptly
1000	0.1000	Instant unconsciousness; followed by death within minutes

B. Sulfur Dioxide (SO_2): Sulfur dioxide is produced as a by-product of H_2S combustion at the flare. The flare unit receives the residual hydrogen sulfide and carbon dioxide stream that is routed from the amine unit. It is colorless, transparent, and is non-flammable, with a pungent odor associated with burning sulfur. Sulfur dioxide is heavier than air, but will be picked up by a breeze and carried downwind at elevated temperatures. Sulfur dioxide can be extremely irritating to the eyes and mucous membranes of the upper respiratory tract.

Sulfur Dioxide Properties & Characteristics	
CAS No.	7446-09-5
Molecular Formula	SO_2
Molecular Weight	64.07 g/mol
Permissible Exposure Limit (PEL)	5 ppm(OSHA)
Time Weighted Average (TWA)	2 ppm(ACGIH)
Short Term Exposure Level (STEL)	5 ppm(ACGIH)
Immediately Dangerous to Life and Health (IDLH)	100 ppm
Specific Gravity Relative to Air (Air = 1.0)	2.26
Boiling Point	14°F
Freezing Point	-103.9°F
Vapor Pressure	49.1 psia
Auto ignition Temperature	N/A
Lower Flammability Limit	N/A
Upper Flammability Limit	N/A
Stability	Stable
Corrosivity	Could form an acid rain in aqueous solutions

Physical Effects of Sulfur Dioxide	
Concentration	**Effect**
1 ppm	Pungent odor, may cause respiratory changes
2 ppm	Permissible exposure limit; Safe for an 8 hour exposure
3-5 ppm	Pungent odor; normally a person can detect sulfur dioxide in this range
5 ppm	Short Term Exposure Limit (STEL); Safe for 15 minutes of exposure
12 ppm	Throat irritation, coughing, chest constriction, eyes tear and burn
100 ppm	Immediately Dangerous To Life & Health (IDLH)
150 ppm	So irritating that it can only be endured for a few minutes
500 ppm	Causes a sense of suffocation, even with first breath
1,000 ppm	Death may result unless rescued promptly.

C. **Carbon Dioxide (CO_2)**: The proposed inlet streams into the Plant will contain a maximum of 383,100 ppm (or 38.31 mole percent) of carbon dioxide based on data generated from the sampling of the inlet gas at least daily. Carbon dioxide gas is colorless, odorless and non-flammable and is heavier than air.

Carbon Dioxide Properties & Characteristics	
CAS No.	124-38-9
Molecular Formula	CO_2
Molecular Weight	44.010 g/mol
Time Weighted Average (TWA)	5,000 ppm
Short Term Exposure Level (STEL)	30,000 ppm
Immediately Dangerous to Life and Health (IDLH)	40,000 ppm
Specific Gravity Relative to Air (Air = 1.0)	1.5197
Boiling Point	-109.12°F
Freezing Point	-69.81°F
Vapor Pressure	830 psia
Autoignition Temperature	N/A
Lower Flammability Limit	N/A
Upper Flammability Limit	N/A
Stability	Stable
pH in Saturated Solution	3.7
Corrosivity	dry gas is relatively inert & not corrosive; can be corrosive to mild steels in aqueous solutions

Physical Effects of Carbon Dioxide	
Concentration	**Effect**
1.0 %	Breathing rate increases slightly
2.0 %	Breathing rate increases to 50% above normal level. Prolonged exposure can cause headache, tiredness
3.0 %	Breathing rate increases to twice normal rate and becomes labored. Weak narcotic effect. Impaired hearing, headache, increased blood pressure and pulse rate
4 – 5 %	Breathing increases to approximately four times normal rate, symptoms of intoxication become evident, and slight choking may be felt
5 – 10 %	Characteristic sharp odor noticeable. Very labored breathing, headache, visual impairment, and ringing in the ears. Judgment may be impaired, followed within minutes by loss of consciousness
10 – 100 %	Unconsciousness occurs more rapidly above 10% level. Prolonged exposure to high concentrations may eventually result in death from asphyxiation

D. Radii of Exposure (ROE) [NMAC 19.15.11.7.K]

The basis for worst case scenario calculations is as follows:

- The hydrogen sulfide content of the inlet natural gas stream into the Agave Dagger Draw Gas Plant is variable, ranging upwards to 7,600 parts per million (ppm) or 0.76 mole percent. In reality, the actual H_2S concentration that the plant processes will be much less than this.

- The inlet gas H_2S concentration of 0.76 mole percent was determined using a mass-balance approach, an analysis of 60.8 mole percent H_2S in the acid gas stream and a maximum acid gas flow rate of 0.5 MMSCFD. It is assumed that the amine system removes 100% of the H_2S from the inlet gas.

- The plant has a maximum daily (24 hour) processing volume of 40 MMSCF.

- The worst case scenario radius of exposure (ROE) also assumes an uncontrolled instantaneous release from the area around either the Metropolis Disposal #1 Well, the amine still at the facility and/or at any point along the pipeline connecting the two of the above referenced volume and concentration. Because the Plant is a throughput process plant, it is impossible that the entire 24 hour-throughput volume of the Plant could be released instantaneously as is assumed in the worst case scenario calculations of the ROE. However, to comply with NMAC 19.15.11, that assumption is the worst case scenario in the formulas/calculations provided here.

It should further be noted that the reason this rate, used as worst case, could not be released over a 24 hour period is the Plant's emergency shutdown (ESD) systems would be activated. The emergency shutdown (ESD) would prevent the flow of gas into the Plant in the event of an emergency. See Appendix C and Map C-1 for more information.

The formulas for calculating the two radius of exposure (ROE) are as follows:

100 ppm Radius of Exposure Calculation (as per 19 NMAC 15.11.7.K.1):

$$X=[(1.589)(\text{hydrogen sulfide concentration})(Q)]^{(0.6258)}$$

500 ppm Radius of Exposure Calculation (as per 19 NMAC 15.11.7.K.2):

$$X=[(0.4546)(\text{hydrogen sulfide concentration})(Q)]^{(0.6258)}$$

Where:
X = radius of exposure in feet
"hydrogen sulfide concentration" = the decimal equivalent of the mole or volume fraction of hydrogen sulfide in the gaseous mixture
Q = Escape rate expressed in cubic feet per day (corrected for standard conditions of 14.73 psi absolute and 60 degrees Fahrenheit)

Amine Unit (Facility)

500-ppm ROE	**1648 feet**
100-ppm ROE	**3606 feet**

Pipeline

500-ppm ROE	**1648 feet**
100-ppm ROE	**3606 feet**

Acid Gas Disposal Well

500-ppm ROE	**1648 feet**
100-ppm ROE	**3606 feet**

The ROE for the facility, pipeline and well are shown on Map C-1 of Appendix C. This ROE pattern is designed to include the 100 and 500 ppm radii for a potential worst case failure at any point in the system from the facility at the north to the well to the south.

VI. Facility Description, Maps, and Drawings

[NMAC 19.15.11.9.B(2)(c)] [API RP-55 7.4 c.]

A. Dagger Draw Processing Plant Description of Operations- The primary function of the plant is to remove H_2S and CO_2 from sour field gas so that the gas can meet pipeline specifications. The plant has been designated a primary Standard Industrial Classification (SIC) Code of 1311. The operation of the Agave Dagger Draw Gas Plant is intended to process 40 MMSCFD of gas. The facility is authorized to operate continuously (8,760 hr/yr) at design maximum capacity processing rates. The gas will be treated to remove acid gas components, dehydrated to remove water and processed to remove heavy (liquid) hydrocarbons from the gas stream. Several plant systems will be involved to perform these functions.

The amine unit is designed to remove acid gas components (carbon dioxide, hydrogen sulfide and mercaptans) from the natural gas stream. These components are removed from the natural gas because they are corrosive, hazardous to health, and reduce the heating value of the natural gas stream. In addition, the carbon dioxide can freeze in the cryogenic unit forming dry ice and forcing the shutdown of the facility. This is known as the gas sweetening process. The acid gas removed by the amine unit will be disposed of by either acid gas injection into a disposal well or by incinerating in a flare. The preferred method of disposal will be to compress the gas and inject it into the well. Under emergency situations, the gas will be flared to prevent the emission of lethal hydrogen sulfide to atmosphere.

The glycol dehydration unit will receive approximately 40.0 MMSCFD of treated gas (sweet) from the amine unit and reduce the water content of the gas by circulating triethylene glycol (TEG). Molecular sieve dehydration is used upstream of the cryogenic processes to achieve a -150°F dew point. The process uses two molecular sieve vessels with one vessel in service absorbing moisture from the gas stream and the other vessel in the regeneration mode.

The cryogenic unit is designed to liquefy natural gas components from the sweet, dehydrated inlet gas by removing work (heat) from the gas by means of the turbo expander. The cryogenic unit recovers natural gas liquids (NGL) by cooling the gas stream to extremely cold temperatures (-150°F) and condensing components such as ethane,

propane, butanes and heavier hydrocarbons. Once the sweet, dry gas exits the cryogenic unit, it needs to be recompressed to approximately 800 to 1200 psi before the gas is sent to the main transportation pipeline. This is accomplished with two 2500 horsepower electric drive compressors.

The hot oil system in the plant is used to provide heat to certain processes within the facility. The system will circulate approximately 600 GPM of hot oil and deliver 15.5 MMBTU/hr to other processes.

B. Metropolis Disposal #1 Well Description of Operations- The low pressure (< 10 psig), acid gas stream from the amine unit is routed to the acid gas compressor. The stream is then subject to a series of compression and cooling cycles, thus dehydrating and compressing the acid gas stream to the required injection pressure of approximately 1100-1600 psig which is well under the maximum allowable working pressure for the pipeline of 2350 psig. The high pressure acid gas stream then flows through a 2" stainless steel pipeline to the injection well site. At this point, the stream is introduced into the well.

There are a number of safeguards designed to prevent leaks or overpressure of the system. The acid gas compressor is equipped with multiple pressure transmitters. These transmitters monitor compressor suction and discharge pressures and are programmed to shut the acid gas system down when the pressures fall outside a pre-programmed operating range. As an additional safeguard, the compressor panel is also equipped with high and low pressure shutdowns for each stage of compression that will shut the compressor down when pressures reach preset high and low pressure set points.

As shown on Map 2, the acid gas pipeline runs from the Agave Dagger Draw Plant in a southwesterly direction, crosses Kincaid Ranch Road at the plant boundary and continues southwesterly along a gravel road for approximately 3680 feet. The pipeline then turns east along the Metropolis Disposal #1 Well access road for an additional 900 feet to the wellhead. South of Kincaid Ranch Road, the pipeline and well are entirely contained within Section 36, Township 18 South, Range 25 East. This land is owned by the State of New Mexico. Agave Energy has the following three Rights-of-Way from the State of New Mexico in this section for the pipeline: R18068, R17745 and R17949. The Metropolis Disposal #1 Well Site is covered under Yates Petroleum Company Oil Leases VO-6141-0000 and E1-0165-0001. The pipeline is buried at a depth of 6-1/2 feet for its entire length and is marked, as required, with permanent surface markers. (See Map 2 and Figure 1)

The acid gas pipeline is constructed from 2" inch 304 stainless steel tubing consistent with NACE standards for sour gas service. The pipeline has been designed with a maximum allowable working pressure of 2350 psig. In order to assure the safety of the pipeline system, the acid gas pipeline is contained within a 6" SDR 11 polyethylene pipeline (rated at 100 psig) which is swept from the wellhead location to the main plant with pure "sweet" gas for leak detection purposes., This "sweet" gas stream flows through the annulus between the 6" and 2" pipelines at a preset pressure of 5 psig and flow rate sufficient to continuously be monitored by a Delmar™ H_2S gas analyzer. This sweet gas stream is monitored continuously for H_2S and over/ under pressure. If any one variable falls outside the narrow predetermined operating range, the automatic safety valves are activated, the acid gas compressor is shut down and the acid gas stream is routed to the flare.

The injection string within the well is also constructed with multiple safety features which include L80 FX FJ 2 7/8" corrosion resistant tubing stabbed into a Halliburton 13-20#

permanent packer, made of Incoloy® 925 with fluorel elements set at 9,857 ft and an automated Halliburton subsurface safety valve also made of Incoloy® 925, set at 250 ft. Incoloy® 925 is a nickel-iron chromium alloy that is resistant to corrosion and pitting. This valve is designed to isolate and automatically shut in the injection well if a leak occurs along the acid gas pipeline or at the surface of the well. The annular space between the tubing and the production casing above the packer is filled with diesel which is designed to allow the pressure in the annular space to be monitored and recorded continuously. If a pressure excursion outside of the narrow predetermined operating range occurs, the acid gas compressor is shut down and the automatic safety valves at the pipeline inlet (located at the plant) and at the wellhead are automatically closed preventing any escape of acid gas. The acid gas stream would then be routed to the flare until the problem with the well is corrected and the system can be safely re-started. These redundant systems are compliant with API RP 55 and API RP 49, various applicable NACE standards for sour service and current best management practices.

C. Map of Plant and Metropolis Disposal #1 Well

See Appendix A, Map A-1

VII. Training and Drills

[NMAC 19.15.11.9.B(2)(d)] [API RP-55 7.4 d]

A. Responsibilities and Duties of Essential Personnel

1. Personnel responsible for implementing this plan shall be trained on their duties and responsibilities related to this plan during the annual on-site or table top training exercises.

2. Plant Orientation Training - All Plant personnel, visitors, and contractors must attend a Plant overview orientation prior to obtaining permission to enter the Plant. A refresher course on this training is required annually for all persons. This training also complies with the requirements of the Agave Energy Company Process Safety Management Program and Procedures Manual.

B. On-site or Classroom Drills

Agave Energy Company may use table top exercises as well as hands on emergency response training methods. Agave Energy Company shall conduct a table top exercise annually at a minimum.

C. Notification and Training of Others on Protective Measures in Emergency Situations

While at the time of submission of this plan there are no residences within the 100 ppm ROE, nearby residents who live outside of the ROE will be invited to participate in and/or observe annual drills, where they will be briefed on notification, evacuation, and shelter in place options such as closing windows and shutting off any air conditioning/heating until they are notified that it is safe. Remuda Energy employees will be trained along with Agave employees. Operators will be invited to attend the trainings.

D. Training and Attendance Documentation

All training and drills will be documented. Documentation shall include sign in sheets, synopsis of the training conducted, and an after action review of the training.

E. Briefing of Public Officials on Evacuation and Shelter in Place Plans

Local law enforcement, first responders, and fire personnel will also be invited to participate and/or observe annual drills, as well as being briefed on notification, evacuation, and shelter in place plans.

VIII. Coordination with State Emergency Plans

[NMAC 19.15.11.9.B(2)(e)]

A. Oil Conservation Division (OCD)

1. Oil Conservation Division (OCD) will be notified with an automatic email to the District II office advising of the activation of the H_2S Contingency Plan if any of the alarms are activated at 10 ppm H_2S or greater. In the event of a power failure, a phone call will be made within four hours. All subsequent paperwork will be filed in a timely fashion.

B. New Mexico State Police/ New Mexico Hazardous Materials Emergency Response Plan

1. The New Mexico State Police are responsible for overall scene management and coordination of all resources. A designated Emergency Response Officer (ERO) will establish the National Interagency Incident Management System (NIIMS) Incident Command System (ICS) as the Incident Commander (IC) and be responsible for management of all response resources on scene. Off-scene coordination of response resources will be handled through designated Headquarters Emergency Response Officers. Law enforcement-related activities will be coordinated by State Police.

IX. Plan Activation

[NMAC 19.15.11.9.C] [API RP-55 7.4 d]

A. Activation Levels

Level I– Intermittent alarm sounded and/or flashing amber beacons activated for H_2S greater than or equal to 10 ppm

Level II – Intermittent alarm sounded and/or flashing red beacons activated for H_2S greater than or equal to 20 ppm

Level III–Catastrophic release; fire; explosion; a continuous release of maximum volume for 24 hours; or NMAC 19.15.11: mandatory activation of indication of 100 ppm in any defined public area; 500 ppm at any public road; or 100 ppm at a distance greater than 3000 feet from the site or the release. Because the 100 ppm radius of impact (ROE) boundary is greater than 3000 feet from the site of release, a Level III response would occur before the escape of the 24 hour release volume.

B. Events that Could Lead to a Release of H_2S

- Inlet and plant piping failure
- Amine still failure
- Flange/gasket leaks on inlet and plant piping
- Flange/gasket leaks on the acid gas compressor
- Flange/gasket leaks at metropolis disposal well
- Failure of acid gas pipeline
- Valve packing
- Seal failure on acid gas compressor
- Failure of flare to ignite during Plant emergency blow down

X. Submission of H_2S Contingency Plans [NMAC 19.15.11.9.D]

A. Submission

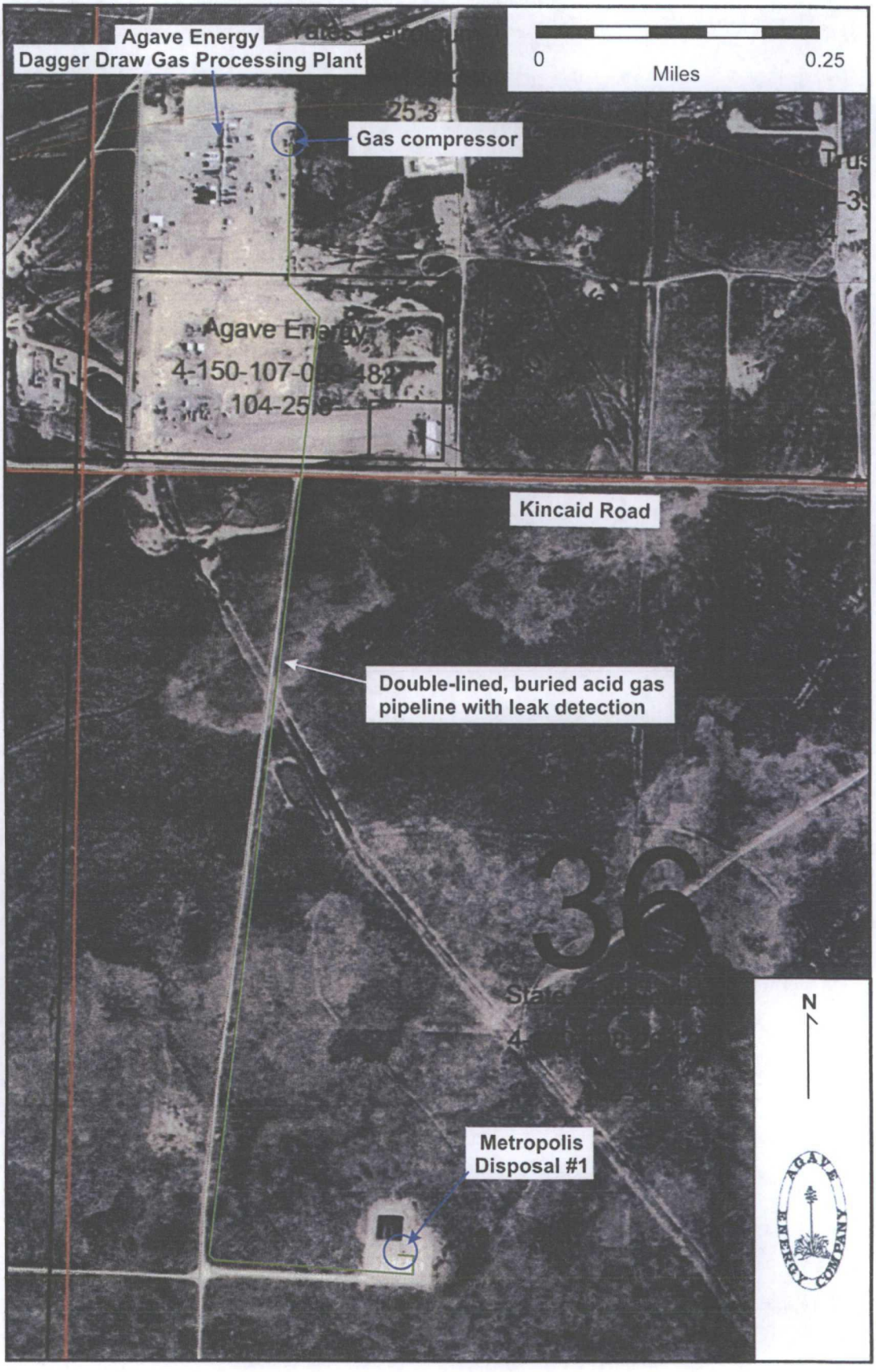
1. Agave Energy Company will submit the H_2S Contingency Plan to the Oil Conservation Division (OCD).

B. Retention

1. Agave Energy Company shall maintain a copy of the contingency plan in the Main Office at 105 South 4th Street in Artesia, NM. The plan shall be readily accessible for review by the Oil Conservation Division (OCD) upon request.

C. Inventory

1. Agave Energy Company will file an annual inventory of wells, facilities and operations for which plans are on file with the Oil Conservation Division (OCD), to the Local Emergency Planning Committee (LEPC) and the State Emergency Response Commission as per NMAC 19.15.11.
2. The inventory shall include the name, address, telephone number, and point of contact for all operations in which plans are on file.



Map 2: General Diagram of Agave Dagger Draw Gas Plant and Location of Pipeline Connecting the Plant with the Metropolis Disposal #1 Well. Please note that the former Agave Energy Facility located immediately south of the Dagger Draw Gas Processing Plant is an inactive, unmanned facility.

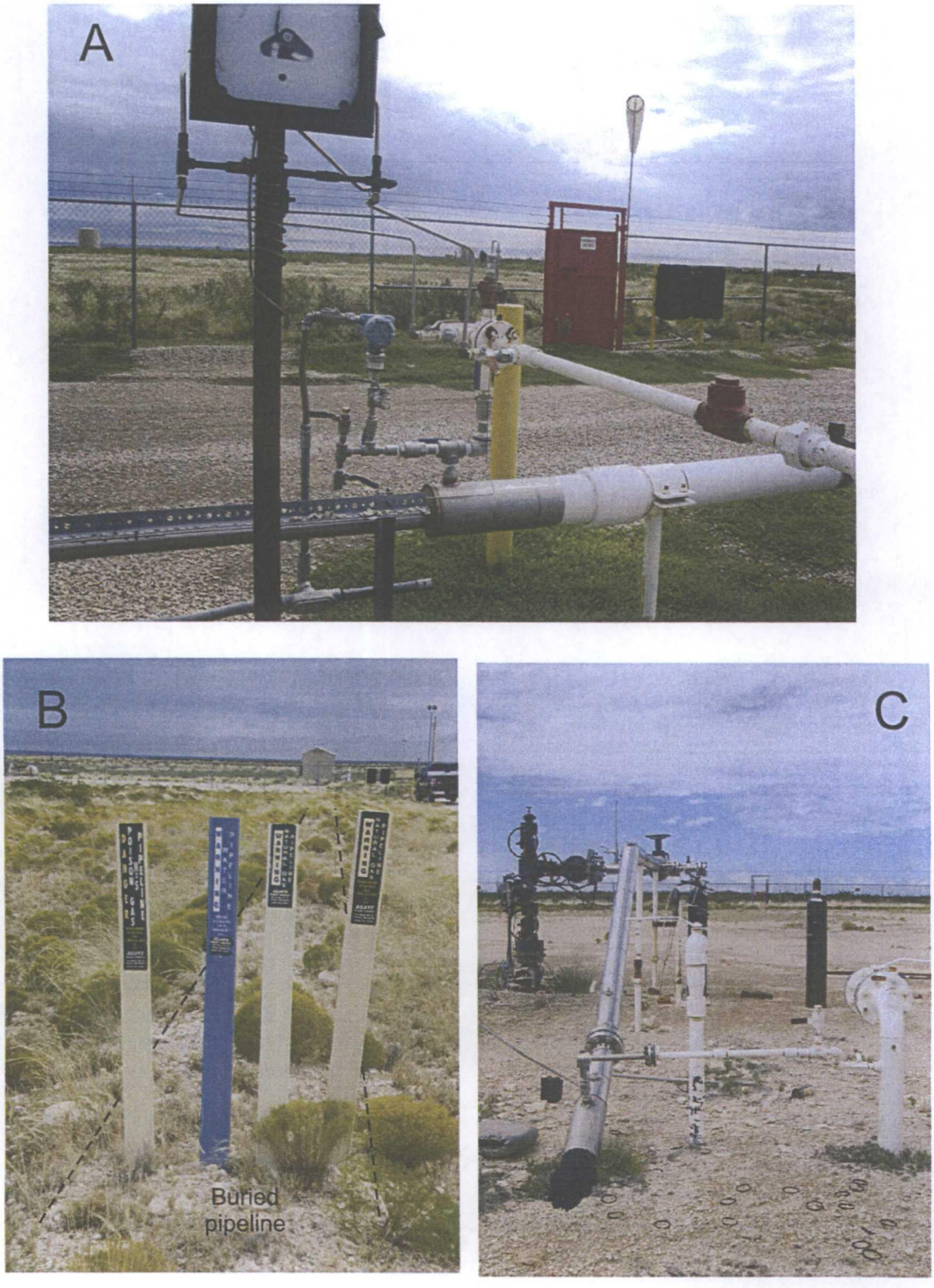


Figure 1: Photos of Pipeline Connecting Agave Energy's Dagger Draw Gas Plant With Metropolis Disposal #1 well. A) Acid Gas Compressed at the Gas Plant is Introduced to a 2" Stainless Steel Pipeline Surrounded by a 6" Polyethylene Pipe. Pipeline Integrity is Monitored Using a Stream of Sweet Natural Gas in the Volume Between the Two Pipes. B) Outside of the Fenced in Areas at the Plant and Wellhead, the Pipeline is Buried and Clearly Marked. C) The Pipeline Rises Above Ground and Connects to the Production Tree at the Metropolis Disposal #1 Wellhead

Figure #2

Figure 2: Photos of the three warning signs outside of Agave Energy's Dagger Draw Gas Plant and Metropolis Disposal #1 well ROE. A) Warning sign for closure of Eddy County Road 38 "Kincaid Ranch Road" B) Warning sign for closure of Eddy County Road 39 "Pipeline Road" C) Warning sign for closure of "Wilson Ranch access"

APPENDIX A – Facility Maps

Map A-1: Facility Map

Map A-2: Alarms and Monitors, Dagger Draw Active Equipment

Map A-3: Safety and Fire Equipment, Dagger Draw Active Equipment

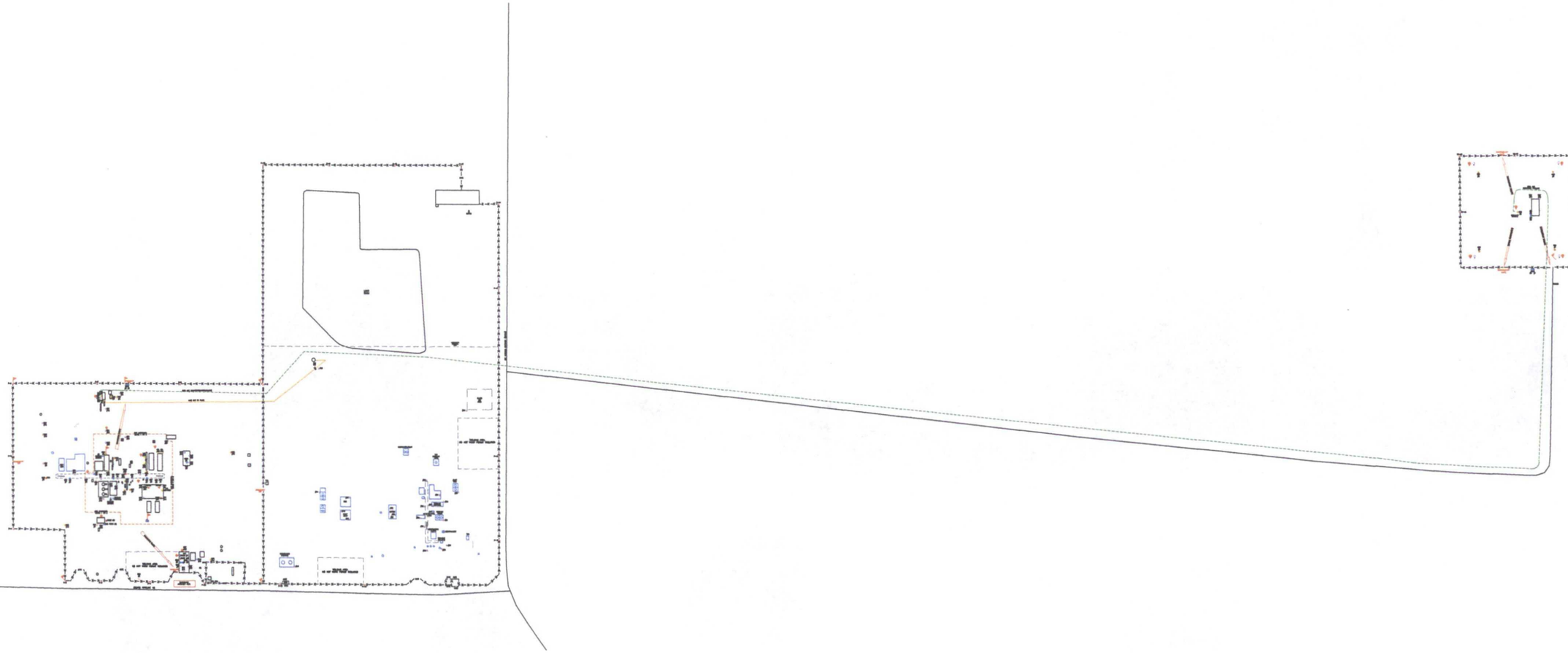
Map A-4: Evacuation Router, Dagger Draw Active Equipment

Map A-5: Proposed Perimeter Alarms

Map A-6: Metropolis Disposal Well

MAP A-1

PLANT NORTH



AGAVE ENERGY COMPANY
105 South Fourth Street, Artesia, New Mexico 88210

AGAVE DAGGER DRAW
GAS PROCESSING PLANT

Facility Map &
Metropolis Disposal Well

MAP A-2

PLANT NORTH

P-10 P-11 P-12 P-13 P-14 P-15 P-16 P-17 P-18 P-19 P-20 P-1 P-2 P-3 P-4 P-5 P-6 P-7 P-8 P-9

GATE

SEPTIC

LAND FARM

AUTHORIZED RESIDENTIAL ONLY

(ROAD) MOUND MARCH '38

#42

EMERGENCY

ADD GAS DISCHARGE(UNDERGROUND)

ADD GAS TO FLARE

#1 #2 #3 #4 #5 #6 #7 #8 #9 #10 #11 #12 #13 #14 #15 #16 #17 #18 #19 #20 #21 #22 #23 #24 #25 #26 #27 #28 #29 #30 #31 #32 #33 #34 #35 #36 #37 #38 #39 #40 #41 #43 #44 #45 #46 #47 #48 #49 #50 #51 #52 #53 #54 #55 #56 #57 #58 #59 #60 #61 #62 #63 #64 #65 #66

DRY
HSS
CO2
LEL, LD.
SCBA
EYE WASH
SHOWER STATION
AIR
FOAM
PIPERACK
ESD
PUSH-BUTTON
FIRST AID
EMERGENCY EXIT
EMERGENCY ASSEMBLY AREA
T.W.

HEC. ELECTRICAL CLASS 1 DIV 1

HEC. ELECTRICAL CLASS 1 DIV 2

ENCROACHMENT RIGHT

WELDING AREA
NO HOT WORK PERMIT REQUIRED

FILTER DRY AREA

DEGREASER/SOAP

R.O STORAGE TANK

SLOP TANK

STORAGE BUILDING

WCC/CONTROL ROOM

STORAGE TANKS

CONTRACTOR PUMPS

CONTAINMENT

DEHOME BUILDING

OFFICE

602

PUMP SHOP

CONDENSATE STORAGE

(ROAD) PIPELINE 40

GATE

H2S DETECTION
VISUAL & AUDIBLE

#5 ACID GAS COMPRESSOR NORTH
#7 CONDENSATE SKID
#8 AMINE AREA
#9 AMINE REBOILER
#10 AMINE PIPERACK
#11 INLET AREA
#12 INLET PIPERACK

H2S DETECTION

#2 DEL-MAR BUILDING #2
#3 DEL-MAR ANALYZING
#4 CHROMATOGRAPH BUILDING
#5 ACID GAS COMPRESSOR WEST
#13 TATES AREA
#14 AIR COMPRESSOR BUILDING
#15 POWER DISTRIBUTION AREA
#16 FLARE PIPERACK

ESD

#1 LAB
#2 GATE
#3 PIPERACK
#4 PIPERACK
#5 FLARE KNOCKOUT
#6 SHOP
#7 OFFICE COMPUTER
#8 CONTROL ROOM COMPUTER

PUSH

COMPUTER

PRODUCT PUMP LEL

#17 PRODUCT PUMP G0901A
#18 PRODUCT PUMP G0901B
#19 PRODUCT PUMP G0501A
#20 PRODUCT PUMP G0501B

GAS DETECTORS

LEL_30 COMPRESSOR BUILDING 30%
LEL_30 COMPRESSOR BUILDING 30%

H2S ALARM

WIND SOCK

SECURITY FENCE

AGAVE ENERGY COMPANY
105 South Fourth Street, Artesia, New Mexico 88210

AGAVE DAGGER DRAW
GAS PROCESSING PLANT

Alarms & Monitors

DRAWN BY: MDM	DATE: 11/16/09	STATE: NEW MEXICO	
CHK. BY:	DATE: 4/09/10	COUNTY: EDDY	
APPROVED: JA	DATE: 4/09/10	SECTION: 31	
CAD FILENAME:	DATE: 10/09/12	TOWNSHIP: 18S	
SCALE: AS NOTED	SCALE: 1"=50'	RANGE: 28E	PROPOSED SITE PLAN

SHEET 2 OF 4

MAP A-3

FIRE EXTINGUISHERS

CO2 ● DRY ● FOAM ●

Total Fire extinguishers 65 including well site

MONITORS

- ● FENCELINE AUDIBLE H2S MONITORS
- ● H2S DETECTION
- ● LEL DETECTION
- ● FD-D1 NORTH COMPRESSOR D1
  FD-D2 NORTH COMPRESSOR D2

BREATHING AIR

- ● ESCAPE PACK
- ● SCBA

FIRST AID

- ● FIRST AID KIT
- ● EYE WASH STATION

WIND SOCK

SECURITY FENCE

AGAVE ENERGY COMPANY
105 South Fourth Street, Artesia, New Mexico 88210

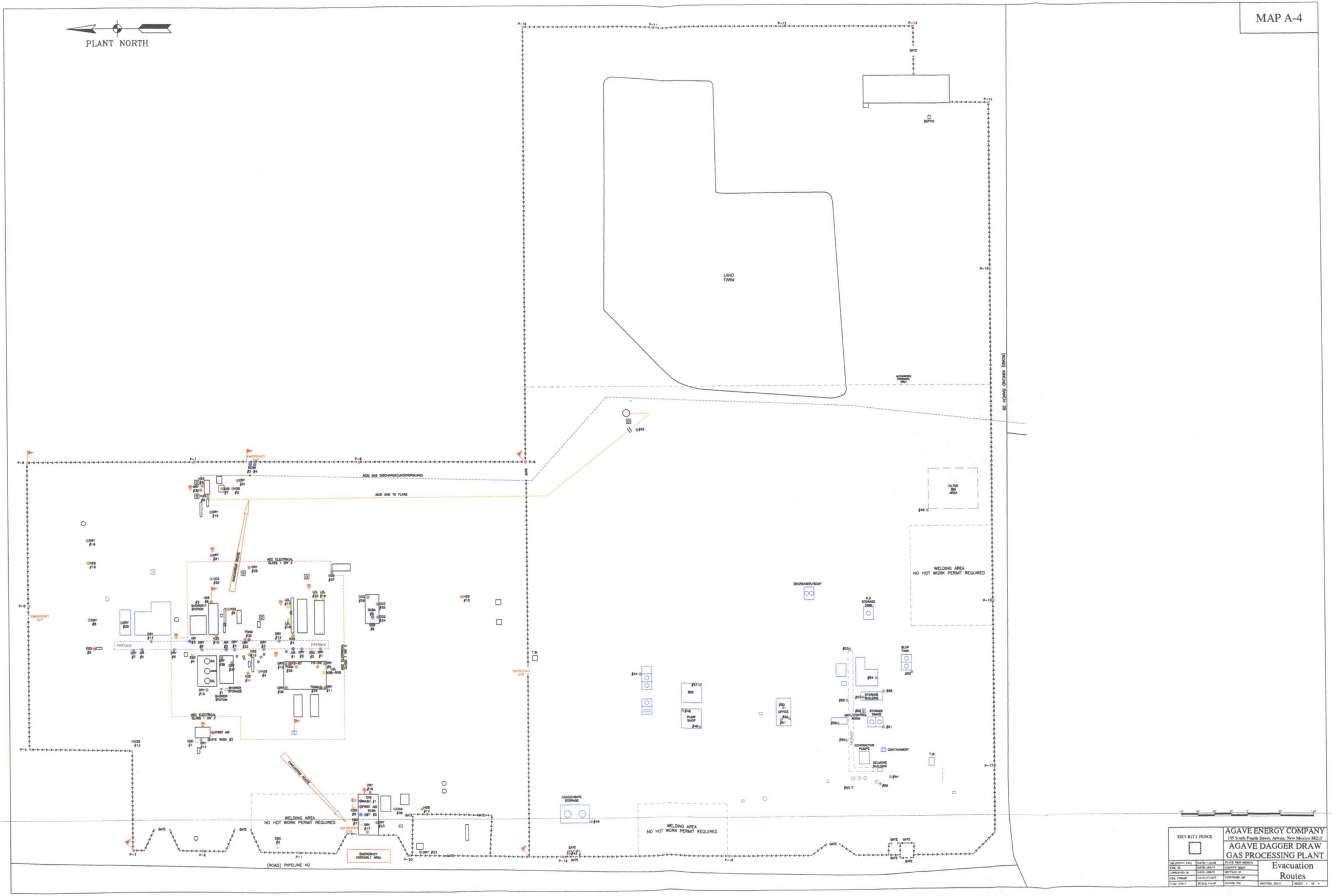
AGAVE DAGGER DRAW
GAS PROCESSING PLANT

Safety &
Fire Equipment

DRAFTING: WBM	DATE: 11/24/09	STATE: NEW MEXICO	
CHK: JK	DATE: 4/09/10	COUNTY: EDDY	
APPROVED: JK	DATE: 4/09/10	SECTION: 2?	
DWG: TW10-09	DATE: 05/08/12	TOWNSHIP: 18S	
SIZE: ANSI F	SCALE: 1"=60'	RANGE: 25E	PRINTED 05/08/12 SHEET 1 OF 1

MAP A-4

PLANT NORTH



SECURITY FENCE	AGAVE ENERGY COMPANY 105 South Fourth Street, Artesia, New Mexico 88210 AGAVE DAGGER DRAW GAS PROCESSING PLANT Evacuation Routes

MAP A-5

PROPOSED WELL SITE

● FENCELINE AUDIBLE H2S MONITORS

WIND SOCK

SECURITY FENCE

AGAVE ENERGY COMPANY
105 South Fourth Street, Artesia, New Mexico 88210

AGAVE DAGGER DRAW
GAS PROCESSING PLANT

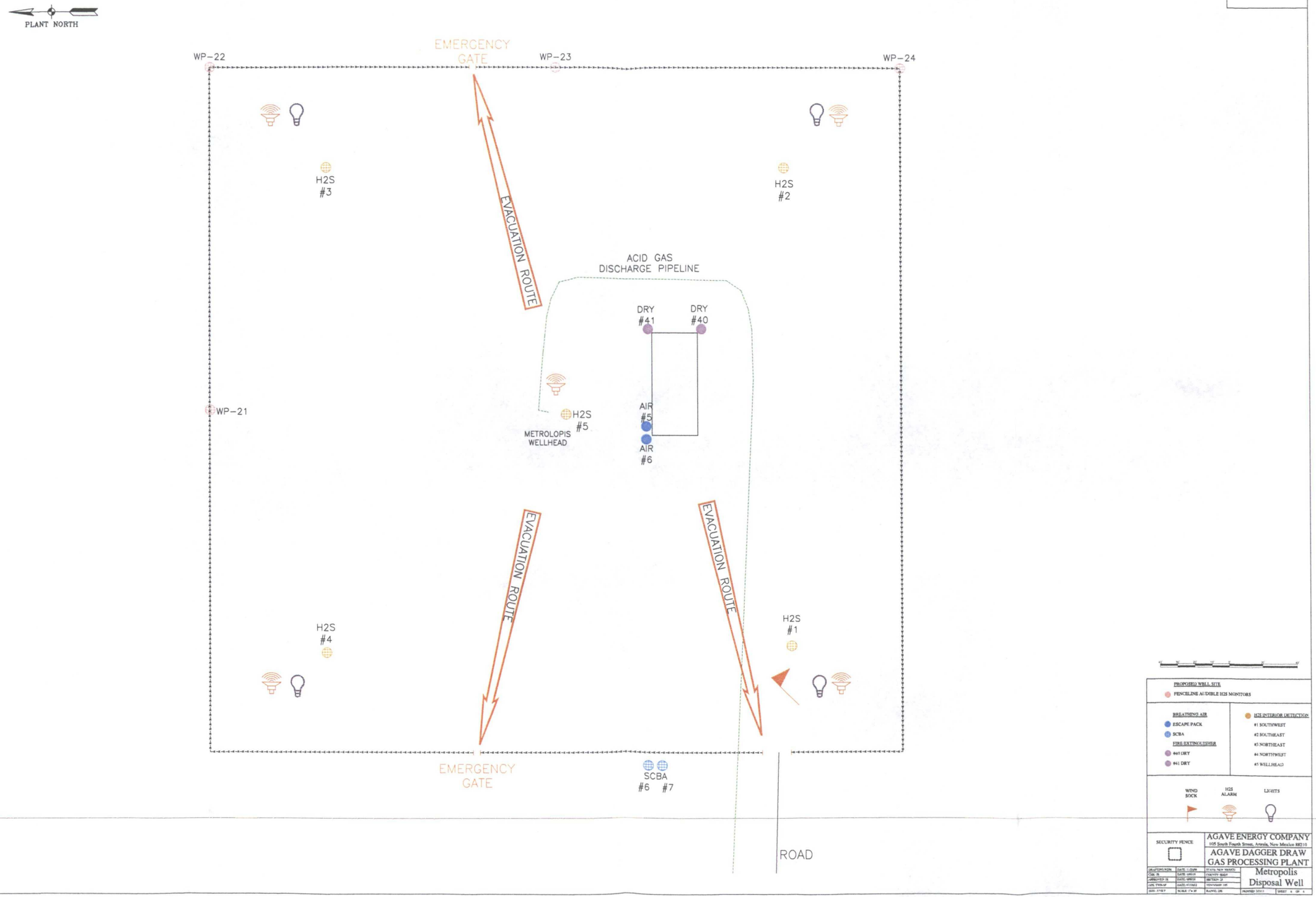
Perimeter Alarms

DRAFTING: TWH	DATE: 11/24/09	STATE: NEW MEXICO
CHK: JK	DATE: 4/09/10	COUNTY: EDDY
APPROVED: JK	DATE: 4/09/10	SECTION: 25
GPS: TWH-SP	DATE: 11/24/09	TOWNSHIP: 18S
SIZE: ANSI F	SCALE: 1"=60'	RANGE: 23E

PRINTED: 2/23/11

SHEET 5 OF 6

MAP A-6


PLANT NORTH
EMERGENCY GATE
WP-22
WP-23
WP-24
WP-21
H2S #3
H2S #2
EVACUATION ROUTE
ACID GAS DISCHARGE PIPELINE
DRY #41
DRY #40
AIR #5
AIR #6
H2S #5
METROLOPIS WELLHEAD
H2S #4
H2S #1
EVACUATION ROUTE
EVACUATION ROUTE
EMERGENCY GATE
SCBA #6 #7
ROAD
PROPOSED WELL SITE
PERIMETER AUDIBLE H2S MONITORS
BREATHING AIR
ESCAPE PACK
SCBA
FIRE EXTINGUISHER
#40 DRY
#41 DRY
H2S INTERIOR DETECTION
#1 SOUTHWEST
#2 SOUTHEAST
#3 NORTHEAST
#4 NORTHWEST
#5 WELLHEAD
WIND SOCK
H2S ALARM
LIGHTS
SECURITY FENCE
AGAVE ENERGY COMPANY
105 South Fourth Street, Artesia, New Mexico 88210
AGAVE DAGGER DRAW GAS PROCESSING PLANT
Metropolis Disposal Well

Appendix B – Response Flow Diagrams

LEVEL I RESPONSE

CALL 911 for death or injury for emergency assistance

H_2S detected at levels greater than or equal to 10 ppm: intermittent audible alarm and flashing amber lights

- Evacuate to Emergency Assembly Area
- Evacuate visitors from plant to appropriate Muster Area
- Notify Agave Management
- Assign operators to suit up in SCBA
- Check PLC Computer for location of H_2S alarm
- Notify all entities in the 100 ppm ROE if perimeter alarms are activated
- Wearing SCBA will attempt to locate and repair leak
- Rotate Operators in 15 minute shifts
- If H_2S levels exceed 10 ppm in emergency assembly area relocate to an alternate assembly or Muster Area

- If H_2S levels exceed 20 ppm proceed to Level II response

Once resolved and monitored levels in Plant are less than 10 ppm H_2S: return to plant and continue to monitor

LEVEL II RESPONSE

CALL 911 for death or injury for emergency assistance

H_2S detected greater than or equal to 20 ppm: intermittent audible alarm and flashing red lights

- Put on Emergency Respirators
- Evacuate to Emergency Assembly Area
- Evacuate visitors from plant to designated Muster Area
- Assign operators to suit up in SCBA
- Check Plant Control System for location of H_2S alarm
- Notify all entities in the 500 ppm ROE if perimeter alarms are activated
- Notify residents in the 100 ppm ROE to shelter in place or evacuate depending on weather and release conditions (IC determines this) if perimeter alarms are activated
- Wearing SCBA attempt to locate and repair leak
- Rotate Operators in 15 minute shifts
- Re-entry will occur for 45 minutes or until the IC determines the ESD must be activated
- Notify LEPC
- If H_2S levels exceed 10 ppm in emergency assembly area relocate to an alternate Muster Area

Once resolved and monitored levels in Plant are less than 10 ppm H_2S: return to plant and continue to monitor

- If H_2S levels exceed 20 ppm and repair efforts are unsuccessful, worst case scenario and/or catastrophic release have occurred then implement Level 3 response

LEVEL III RESPONSE

CALL 911 for death or injury for emergency assistance

H_2S detected greater than 20 ppm: intermittent audible alarm and flashing red lights
repair efforts are unsuccessful, worst case scenario and/or catastrophic release have occurred

H_2S detected greater than 50 ppm: plant will automatically go in to ESD. IC determines to proceed with Level III or Level II after ESD

- Set up road blocks on Kincaid and Pipeline Roads near the muster areas
- Confirm all personnel have evacuated the 500 ppm ROE
- Instruct all personnel in the 100 ppm ROE to evacuate to Muster Area as determined by the IC
- If vapors have ignited, continue to let burn unless fires endanger personnel
- Initiate a chronological record of events
- Within one hour of activation of the plan notify NMOCD and the NRC
- Establish a Media staging area in Muster Area 2 or other location as the situation permits
- Submit agency reports as required

Once resolved and monitored levels in Plant are less than 10 ppm H_2S: return to Plant continue to monitor

Appendix C - Radius of Exposure Calculations

Map C-1 Radius of Exposure

APPENDIX C-RADIUS OF EXPOSURE CALCULATIONS

NOTE: Old section has been deleted and replaced with highlighted material but changes are not shown in red line format.

The basis for worst case scenario calculations is as follows:

- The hydrogen sulfide content of the inlet natural gas stream into the Agave Dagger Draw Gas Plant is variable, ranging upwards to 7,600 parts per million (ppm) or 0.76 mole percent. In reality, the actual H_2S concentration that the plant processes will be much less than this.

- The inlet gas H_2S concentration of 0.76 mole percent was determined using a mass-balance approach, an analysis of 60.8 mole percent H_2S in the acid gas stream and a maximum acid gas flow rate of 0.5 MMSCFD. It is assumed that the amine system removes 100% of the H_2S from the inlet gas.

The plant has a maximum daily (24 hour) processing volume of 40 MMSCF.

- The worst case scenario radius of exposure (ROE) also assumes an uncontrolled instantaneous release from the area around either the Metropolis Well, the amine still at the facility and at any point along the pipeline connecting the two of the above referenced volume and concentration. Because the Plant is a throughput process plant, it is impossible that the entire 24 hour-throughput volume of the Plant could be released instantaneously as is assumed in the worst case scenario calculations of the ROE. However, to comply with NMAC 19.15.11, that assumption is the worst case scenario in the formulas/calculations provided here.

It should further be noted that the reason this rate, used as worst case, could not be released over a 24 hour period is the Plant's emergency shutdown (ESD) systems would be activated. The emergency shutdown (ESD) would prevent the flow of gas into the Plant in the event of an emergency. See Appendix C and Map C-1 for more information.

The formulas for calculating the two radius of exposure (ROE) are as follows:

100 ppm Radius of Exposure Calculation (as per 19 NMAC 15.11.7.K.1):

$$X=[(1.589)(\text{hydrogen sulfide concentration})(Q)]^{(0.6258)}$$

500 ppm Radius of Exposure Calculation (as per 19 NMAC 15.11.7.K.2):

$$X=[(0.4546)(\text{hydrogen sulfide concentration})(Q)]^{(0.6258)}$$

Where:
X = radius of exposure in feet
"hydrogen sulfide concentration" = the decimal equivalent of the mole or volume fraction of hydrogen sulfide in the gaseous mixture
Q = Escape rate expressed in cubic feet per day (corrected for standard conditions of 14.73 psi absolute and 60 degrees Fahrenheit)

ROE Inside the Plant

The escape rate (Q) is the maximum daily rate of the gaseous mixture produced or handled or the best estimate thereof. For releases inside the Agave Dagger Draw Gas Plant, the Company is using for contingency planning purposes an "escape rate" equal to the maximum inlet gas volume of 40,000 MCFD. The (actual) inlet gas volume at the Plant will be somewhat variable and is continuously metered. The Plant records daily inlet gas volumes and prepares a daily volume report. The assumed 40,000 MCFD inlet gas volume has been selected as the "escape rate" because it is the highest anticipated inlet volume that the Plant would handle under its proposed operations and is considered worst case interpretation of the volume of gas.

It should be noted that the plan will remain effective as long as the processed volume and H_2S content equate to the same or smaller ROE.

Previous monitoring data indicated variable inlet concentrations of hydrogen sulfide, but concentration will not exceed 7,600 ppm or .76 mole percent. Therefore, 7,600 ppm or .76 mole percent has been used in the worst case scenario operations for contingency planning purposes.

Using:
Q = 40,000,000
H_2S conc = 7,600 ppm or .76 mole%

500-ppm RADIUS OF EXPOSURE CALCULATION

$$X = [(0.4546)*(H_2S \text{ concentration})*(\text{gas volume } (Q))]^{0.6258}$$

$$X = [(0.4546)*(7{,}600*.000001)*(40{,}000{,}000)]^{0.6258}$$

X = 1648 feet = 500-ppm ROE

100-ppm RADIUS OF EXPOSURE CALCULATION

$$X = [(1.589)*(H_2S \text{ concentration})*(\text{gas volume})]^{0.6258}$$

$$X = [(1.589)*(7{,}600*.000001)*(40{,}000{,}000)]^{0.6258}$$

X = 3606 feet = 100-ppm ROE

ROE Along the Pipeline and At the Injection Well

The escape rate (Q) is the best estimate of the maximum daily flow rate of the acid gas. For releases inside the Agave Dagger Draw Gas Plant, the Company is using for contingency planning purposes an "escape rate" equal to the 500 MCFD. The assumed 500 MCFD acid gas volume has been selected as the "escape rate" because it is the highest anticipated gas volume that the Plant would handle under its proposed operations and is considered the worst case interpretation of the volume of gas.

It should be noted that the plan will remain effective as long as the processed volume and H_2S content equate to the same or smaller ROE.

Previous monitoring data indicated variable inlet concentrations of hydrogen sulfide, but concentration will not exceed 608,000 ppm or 60.8 mole% at the inlet. Therefore, 608,000 ppm or 60.8 mole% has been used in the worst case scenario operations for contingency planning purposes. Again, Agave does not measure the H_2S concentration in the acid gas stream; rather the concentration is calculated based on the inlet conditions.

Using:
Q = 500,000

H_2S conc = 608,000 ppm or 60.8 mole%

500-ppm RADIUS OF EXPOSURE CALCULATION

$$X = [(0.4546)*(H_2S \text{ concentration})*(\text{gas volume } (Q))]^{0.6258}$$

$$X = [(0.4546)*(608{,}000*.000001)*(500{,}000)]^{0.6258}$$

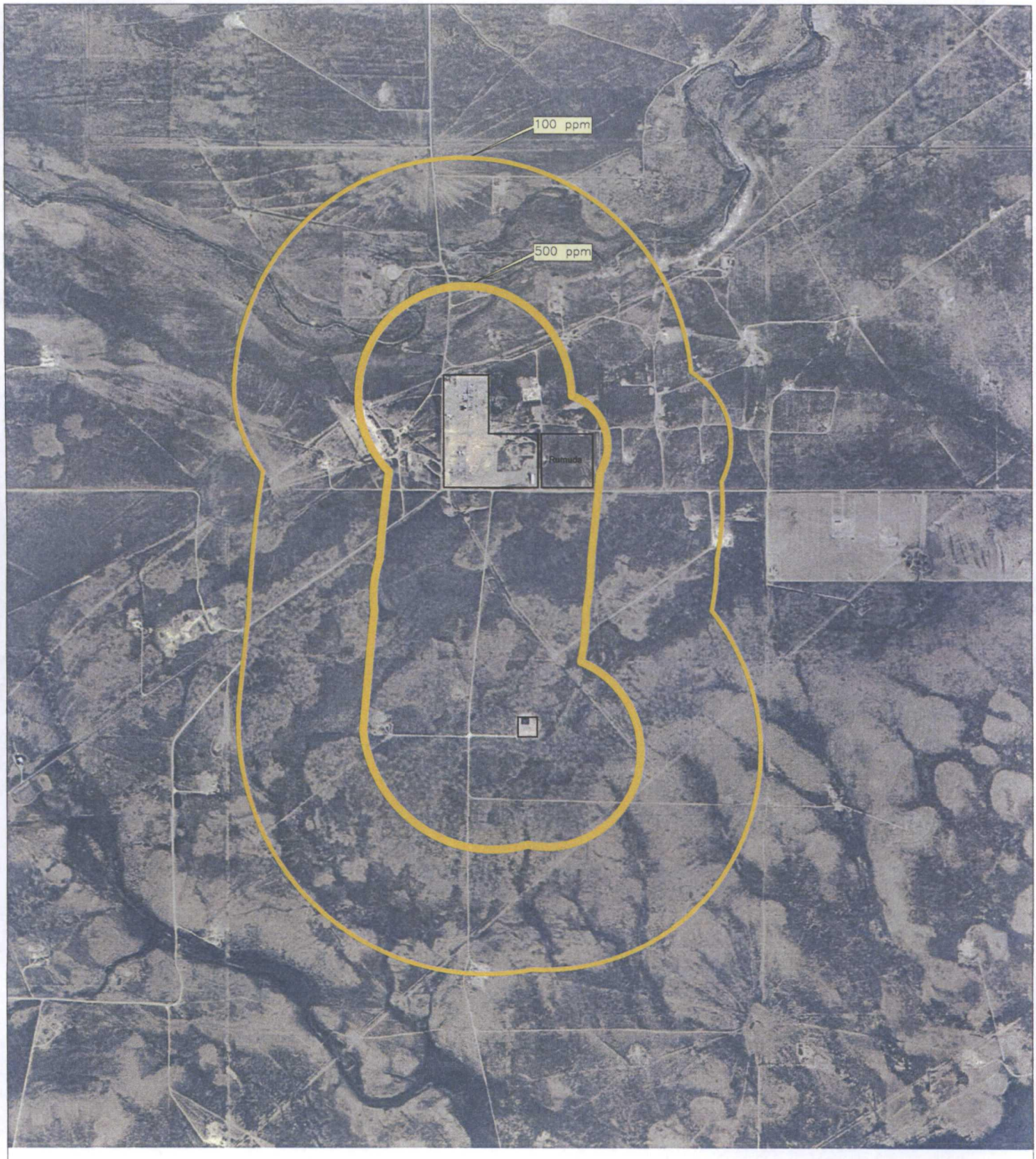
X = 1648 feet = 500-ppm ROE

100-ppm RADIUS OF EXPOSURE CALCULATION

$$X = [(1.589)*(H_2S \text{ concentration})*(\text{gas volume})]^{0.6258}$$

$$X = [(1.589)*(608{,}000*.000001)*(500{,}000)]^{0.6258}$$

X = 3606 feet = 100-ppm ROE



2000' 1000' 0' 2000'

1648 Ft (500 ppm)
3606 Ft (100 ppm)
AMINE STILL
METROPOLIS WELL HEAD
ACID GAS PIPELINE

MAP C-1

AGAVE ENERGY COMPANY
105 South Fourth Street, Artesia New Mexico 88210

AGAVE DAGGER GAS DRAW PLANT
HYDROGEN SULFIDE CONTINGENCY PLAN
AMINE STILL RADIUS OF EXPOSURE

DRAFTING: TWH	PRINTED: 06/19/12	SIZE: ANSI A	REV 0
CHK: JK	DATE: 11/29/10	SCALE: 1"=2000'	
APPROVED: JK	DATE: 11/29/10	SHEET 1 of 1	

APPENDIX D – Muster Areas, Evacuation Routes

Map D-1: Evacuation Routes to Muster Areas

Map D-2: Atoka – Safety Trailer Location

4000' 2000' 0' 4000'

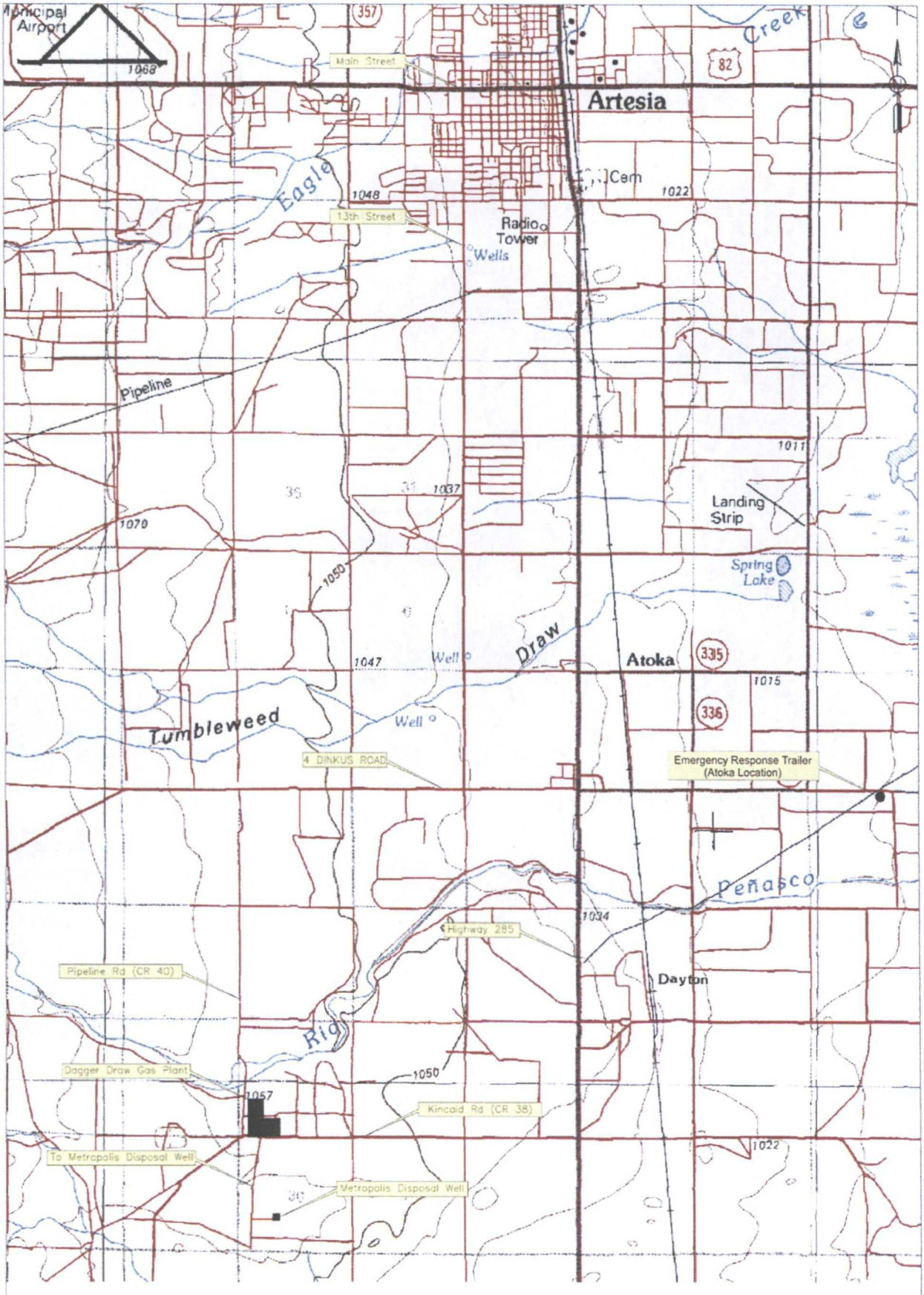
MUSTER AREA

AGAVE ENERGY COMPANY
105 South Fourth Street, Artesia New Mexico 88210

AGAVE DAGGER GAS DRAW PLANT
HYDROGEN SULFIDE CONTINGENCY PLAN
EVACUATION ROUTES

DRAFTING: TWH	PRINTED: 11/29/10	SIZE: ANSI B	REV 0
CHK: JK	DATE: 11/29/10	SCALE: 1"=2000'	
APPROVED: JK	DATE: 11/29/10	SHEET 1 of 1	

MAP D-1



AGAVE ENERGY COMPANY
105 South Fourth Street, Artesia New Mexico 88210

AGAVE DAGGER DRAW PLANT
HYDROGEN SULFIDE CONTINGENCY PLAN
FACILITIES LOCATIONS

DRAFTED: TAH	PRINTED: 11/29/10	SIZE: ANSI B	REV: 0
CHK: JK	DATE: 11/29/10	SCALE: 1" = 4000'	
APPROVED: JK	DATE: 11/29/10	SHEET: 1 OF 1	

MAP 1

APPENDIX E – H2S Contingency Plan Distribution List

New Mexico Oil Conservation Division

New Mexico Department of Public Safety

Local Emergency Planning Committee

Artesia Fire Department

Atoka Fire Department

Artesia Fire Department

Eddy County Sheriff's Department

Dagger Draw Plant

Agave Main Office

Yates Petroleum Corporation

Remuda Energy Transportation, LLC

Cimarex

Concho